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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,943	12/06/2000	Hideo Yahagi	108066	6925

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EXAMINER

TRAN, HIEN THI

ART UNIT PAPER NUMBER

1764

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,943

Applicant(s)

YAHAGI, HIDEO

Examiner

Hien Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/2/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The disclosure is objected to because of the following informalities:

On page 5, line 4 "f" should be changed to --of--. See page 10, line 4 and the remaining specification likewise.

On page 7, lines 9-10 it is unclear as to what is intended by "aperture areal size"; in line 25 it is unclear as to what is intended by "purging catalyst". See page 8, line 1 and the remaining specification likewise.

On page 8, line 8 it is unclear as to what is intended by "purging performance". See the remaining specification likewise.

On page 13, line 27 "Th" should be changed to --The--.

On page 14, line 4 --or manifold-- should be inserted before "16"; in line 22 a space should be inserted between "graduallysuch".

On page 18, lines 9-11 it is unclear as to what is intended by "purging".

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On page 22, line 9 "he" should be changed to --the--

Appropriate correction is required.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear as to what is intended by "purging catalyst".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 5, 7, 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Foster (5,857,140).

With respect to claims 1, 2, Foster discloses an exhaust emission control system comprising:

an internal combustion engine;

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an exhaust gas purifying catalyst provided in an exhaust passageway of said internal combustion engine;

a box body formed with an exhaust gas inlet and an outlet;

a catalyst support incorporated into said box body; and

a catalyst substance supported on said catalyst support; wherein a part of said catalyst support is a low resistance area or notch portion formed so that a gas flow resistance is lower than in other areas and disposed in such a position that a flow velocity of the exhaust gas flowing to said catalyst support is high (see, for example, col. 2, lines 38-45; col. 4, lines 8-61; col. 8, lines 20-30).

With respect to claims 3, 5, Foster discloses that the notched portion is formed in an exhaust gas inflow sided end and in an exhaust gas outflow sided end.

With respect to claim 7, Foster discloses provision of a plurality of notched portions (Fig. 18).

With respect to claims 9-10, Foster discloses that the notched portion includes a guide passageway inclined or conical shape (Figs. 8,17).

Instant claims 1-3, 5, 7, 9-10 structurally read on the apparatus of Foster.

9. Claims 1-3, 5, 7, 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 07-232082.

With respect to claims 1-3, JP 07-232082 discloses an exhaust emission control system comprising:

an internal combustion engine;

an exhaust gas purifying catalyst provided in an exhaust passageway of said internal combustion engine;

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a box body formed with an exhaust gas inlet and an outlet;

a catalyst support incorporated into said box body; and

a catalyst substance supported on said catalyst support; wherein a part of said catalyst support is a low resistance area or notch portion formed so that a gas flow resistance is lower than in other areas and disposed in such a position that a flow velocity of the exhaust gas flowing to said catalyst support is high (abstract).

Instant claims 1-3 structurally read on the apparatus of JP 07-232082.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183

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USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

13. Claims 4, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foster (5,857,140).

With respect to claims 4, 6, selecting an appropriate amount of catalyst loading for each portion of the substrate is within the purview of one having ordinary skill in the art during routine experimentation and optimization of the system, absence showing any unexpected results thereof.

With respect to claim 8, since the shape of the end face of the catalyst substrate (shape of the notched portion) is not considered to confer patentability to the claim. It would have been an obvious matter of design choice to select an appropriate shape for the end face of the catalyst substrate/shape of the notched portion, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

14. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 07-232082 in view of Foster (5,857,140).

The same comments regarding to Foster apply.

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It would have been obvious to one having ordinary skill in the art to select notched portions (shape, number, location, etc.) as taught by Foster in the apparatus of JP 07-232082, since such a modification would have involved a mere change in the shape of a component or rearrange the notched portion. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Note that it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gary, Abe et al, and Sigling are cited for showing state of the art.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hien Tran

HT
February 23, 2004

Hien Tran
Primary Examiner
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